

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Garbuzov et al.

Art Unit : Unknown

Serial No. : Unknown

Examiner : Unknown

Filed : February 13, 2004

Title : HIGH POWER SEMICONDUCTOR DIODE LASER

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT TO ENCLOSED REISSUE APPLICATION

Prior to examination, please amend the enclosed reissue application as follows.

In the claims:

Please add claims 20 – 55.

20. A semiconductor laser diode comprising:

a body of a semiconductor material having therein a waveguide region which is not intentionally doped and which is of a material which substantially confines photons therein and allows the flow of photons therealong;

means within the waveguide region for generating an optical mode of photons; and

a clad region on each side of the waveguide region, the clad regions being at least partially doped to be of opposite conductivity type,

wherein said photon generating means is thinner than the thickness of the waveguide region and is spaced from the clad regions,

wherein at least a portion of the waveguide region on each side of the means for generating an optical mode of photons is of a uniform composition throughout its thickness, and

wherein the thickness of the waveguide regions and the composition of the waveguide and clad regions are such that an overlapping of the optical mode generated in the waveguide region into the clad regions is not greater than about 5%.

21. The semiconductor laser diode of claim 20, wherein the waveguide region is of a thickness of at least 500 nanometers.